

### ABSTRACT OF THE DISCLOSURE

The invention relates to radiopharmaceuticals and methods of making and using such radiopharmaceuticals. The invention particularly relates to reagents and methods for targeting radiopharmaceuticals for sites within a mammalian body for imaging such sites and for effecting a therapeutic effect at such sites, using radiolabeled imaging agents and radiotherapeutic agents, respectively. The invention provides reagents for preparing such radiolabeled radiodiagnostic and radiotherapeutic agents and the radiolabeled reagents *per se* as radiopharmaceuticals. The invention specifically provides such reagents comprising targeting molecules covalently linked to monoamine, diamide, thiol-containing metal chelators. Methods of making such reagents, and methods of using the radiopharmaceuticals produced therefrom are also provided.